



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/601,414	08/01/2000	MASAHITO YOSHIKAWA	1344-00	2306

22469 7590 04/14/2003

SCHNADER HARRISON SEGAL & LEWIS, LLP  
1600 MARKET STREET  
SUITE 3600  
PHILADELPHIA, PA 19103

EXAMINER

GRIFFIN, WALTER DEAN

ART UNIT

PAPER NUMBER

1764

DATE MAILED: 04/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/601,414

Applicant(s)

YOSHIKAWA ET AL.

Examiner

Walter D. Griffin

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 March 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) Paper No(s) _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)          |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:   |

Art Unit: 1764

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al. (6,043,179).

The Davis reference discloses a process for converting hydrocarbon compounds by contacting the compounds with a CIT-5 zeolite catalyst. The CIT-5 zeolite is formed and synthetic and has the claimed characteristics. The catalyst may contain hydrogenating metals.

Art Unit: 1764

Specific conversion processes include the isomerization of polyalkyl-substituted aromatics. See col. 9, lines 7-12 and col. 10, lines 16-37.

The Davis reference does not disclose the specific aromatic compounds claimed in claims 1, 4, and 5 and does not disclose the crystal size of claim 10.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Davis by utilizing the claimed compounds of claims 1 and 5 because the claimed compounds fall within the general class of polyalkyl-substituted aromatic compounds disclosed by Davis and therefore would be expected to be effectively isomerized in the process.

Regarding the isomerization of an aromatic compound with at least one halogen substituent as in claim 4, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Davis by utilizing these halogen-containing aromatic compounds because one would expect any large aromatic compound to be isomerized since it is generally disclosed that the large polyalkyl-substituted aromatic compounds are isomerized.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Davis by utilizing a zeolite with a crystal size as claimed in claim 10 because using any crystal size in the catalyst would be expected to result in an effective process since it is the catalyst pore characteristics that determine the effectiveness of the catalyst for a specific application.

Art Unit: 1764

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zones et al. (5,215,648).

The Zones reference discloses a process for converting hydrocarbon compounds by contacting the compounds with an SSZ-31 zeolite catalyst. The SSZ-31 zeolite is formed and synthetic and has the claimed characteristics. The catalyst may contain hydrogenating metals. Specific conversion processes include the isomerization of polyalkyl-substituted aromatics. See col. 7, line 59 through col. 9, line 50.

The Zones reference does not disclose the specific aromatic compounds claimed in claims 1, 4, and 5 and does not disclose the crystal size of claim 10.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Zones by utilizing the claimed compounds of claims 1 and 5 because the claimed compounds fall within the general class of polyalkyl-substituted aromatic compounds disclosed by Zones and therefore would be expected to be effectively isomerized in the process.

Regarding the isomerization of an aromatic compound with at least one halogen substituent as in claim 4, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Zones by utilizing these halogen-containing aromatic compounds because one would expect any large aromatic compound to be isomerized since it is generally disclosed that the large polyalkyl-substituted aromatic compounds are isomerized.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Zones by utilizing a zeolite with a crystal

Art Unit: 1764

size as claimed in claim 10 because using any crystal size in the catalyst would be expected to result in an effective process since it is the catalyst pore characteristics that determine the effectiveness of the catalyst for a specific application.

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 97/46486.

The WO 97/46486 reference discloses a process for converting hydrocarbon compounds by contacting the compounds with an UTD-1 zeolite catalyst. The UTD-1 zeolite is formed and synthetic and has the claimed characteristics. The catalyst may contain hydrogenating metals. Specific conversion processes include the isomerization of polyalkyl-substituted aromatics. See page 12, lines 1-10 and page 18, lines 18-30.

The WO 97/46486 reference does not disclose the specific aromatic compounds claimed in claims 1, 4, and 5 and does not disclose the crystal size of claim 10.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of WO 97/46486 by utilizing the claimed compounds of claims 1 and 5 because the claimed compounds fall within the general class of polyalkyl-substituted aromatic compounds disclosed by WO 97/46486 and therefore would be expected to be effectively isomerized in the process.

Regarding the isomerization of an aromatic compound with at least one halogen substituent as in claim 4, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of WO 97/46486 by utilizing these halogen-containing aromatic compounds because one would expect any large aromatic

Art Unit: 1764

compound to be isomerized since it is generally disclosed that the large polyalkyl-substituted aromatic compounds are isomerized.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of WO 97/46486 by utilizing a zeolite with a crystal size as claimed in claim 10 because using any crystal size in the catalyst would be expected to result in an effective process since it is the catalyst pore characteristics that determine the effectiveness of the catalyst for a specific application.

### *Response to Arguments*

The argument that the applied references do not disclose or suggest zeolites having the claimed pore size and having the claimed lack of intersections with channels of size greater than a 10-membered ring is not persuasive. The zeolites disclosed in the applied prior art references are the same as those claimed in claim 6. Therefore, the examiner asserts that the disclosed catalysts have the characteristics as claimed although the references do not explicitly recite these characteristics.

The argument that the Davis and Zones references do not suggest the treatment of three-substituted aromatics is not persuasive. For example, the Davis reference discloses in column 10, lines 29 and 30 that polyalkyl-substituted aromatics can be isomerized using the claimed zeolite catalyst. While Davis gives an example of a polyalkyl-substituted aromatic that contains two alkyl groups, the examiner asserts that one having ordinary skill in the art would not interpret this example as limiting the applicability of the catalyst in isomerization processes to only two-

Art Unit: 1764

substituted aromatics. The expression "polyalkyl substituted aromatics" as used by Davis would also include aromatics with three or more substituent groups.

### *Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

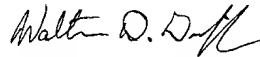
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter D. Griffin whose telephone number is 703-305-3774. The examiner can normally be reached on Monday-Friday 6:30 to 4:00 with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.



Art Unit: 1764

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



Walter D. Griffin  
Primary Examiner  
Art Unit 1764

WG  
April 7, 2003